



# LEADING PEDESTRIAN INTERVAL PROGRAMMING

For Statewide Traffic Controller Units in Florida

## Leading Pedestrian Intervals (LPI)

Used as a safety measure to assist pedestrians traversing across intersections by providing a “head start” of the pedestrian walk interval and delaying the vehicle green interval.

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## Section 1: Leading Pedestrian Interval (LPI) Testing Status

### 1.1 Forward:

Leading Pedestrian Intervals (LPI) are used to aid pedestrians crossing intersections by delaying the Green Interval from timing at the beginning of the Walk Interval. This advanced walk time provides a buffer to allow pedestrians a “head start” to traverse across an intersection prior to vehicles entering the Green Interval.

Using data provided from the *05122020\_Statewide TSMCA Exhibit\_Updated\_January 2020 - District Updates\_06\_24\_2020* spreadsheet, the greatest used controller units (CU’s) in Florida were broken down by manufacturer, model type and amount of each individual model in the state for Leading Pedestrian Interval Testing. The following table displays CU’s that have been tested for LPI capability and CU’s that use the same testing steps as those tested.

### 1.2 Results:

- **11 Controller Units have been tested for LPI**
- **1 Controller Unit is NOT LPI programable per manufacturer** (*testing is being completed to find a solution*)

### 1.3 Controller Units Tested:

	<b>Manufacturer / Type</b>	<b>Controller Unit Model Tested</b>	<b>Other CU’s LPI Steps Apply To / Notes</b>
1.	Cubic/Trafficware (Naztec)	Commander ATC, 2070 LX and 900 ATC	900 Series (970/980/ 981)- Complete
2.	Econolite	ASC/3-2100 and Cobalt ATC	2070 and EOS- Complete
3.	Peek	ATC-1000	3000E/M3000E/Transyt do not have LPI programming capability per manufacturer.
4.	Siemens/Eagle	M60 ATC, 2070 LX and EPAC 300	M40, M50 and 2070 must have firmware version 3.3.4 or higher - Complete
5.	Intelight	2070-LDX	Complete
6.	McCain	ATC eX Omni	2070- Complete

## Section 2: Individual CU LPI Programming Steps

### **How to use these steps:**

Traffic controller units tested for LPI programming (Advanced Walk/Delayed Green) have been listed below by manufacturer, the controller unit being tested and the steps that apply to program a Leading Pedestrian Interval. The programming steps will often apply to multiple controller unit models and will not be repeated for each type. **Controller Units Covered** will denote which units the test applies to. Figures have been provided with steps associated to them for ease of use during programming. The tests will show the letters “MM” followed by the sequence of steps to navigate to the next desired menu and ultimately to the menu where the LPI can be programmed.

**Example: MM-1-1-3** denotes that the user start in the Main Menu Screen, press 1 for Controller, once on the Controller Screen press 1 for Phases Screen, once on the Phases Screen press 3 for Options+ where programming will take place.

**Note:** All Pedestrian Phases must have a Pedestrian Walk and Pedestrian Clearance Interval programmed in order for the LPI programming to activate.

LPI can be programmed in Controller Units for Non-Coordinated Timing or Coordinated Timing using the following parameters:

- Non-Coordinated used with Pedestrian Recalls
- Non-Coordinated used without Pedestrian Recalls, without Rest in Walk, Push Button Activated
  
- Coordinated used with Pedestrian Recalls and Rest in Walk
- Coordinated used with Pedestrian Recalls and without Rest in Walk
- Coordinated used without Pedestrian Recalls, without Rest in Walk, Push Button Activated

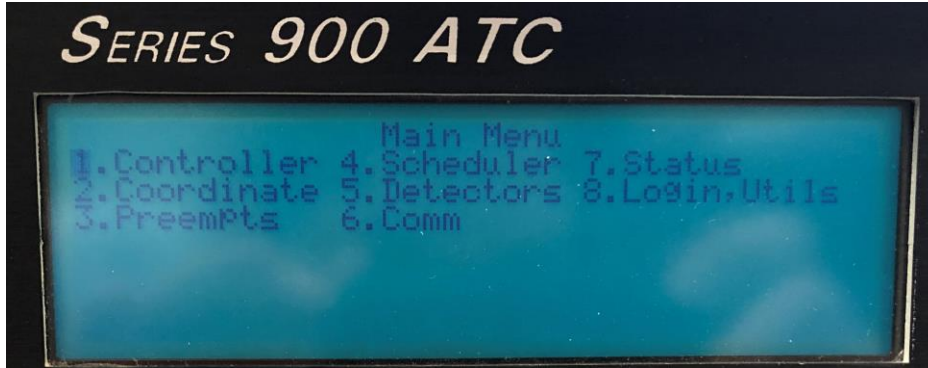
If using Pedestrian Recalls or Rest in Walk, LPI will activate for every walk phase that has LPI programmed. LPI programming must be done within the Controller Unit as it associates a time period to a Pedestrian Phase. Desired LPI programming times can include any combination of Pedestrian Phase Timing Parameters.

## 1. Cubic/Trafficware (Naztec):

- **Controller Units Covered:** Commander ATC and 2070 LX, 900 ATC & 900 Series (970/980/ 981)
- **Controller Manual:** Scout [V85.x] – Cubic/Trafficware Commander and 2070-1C ATC Controllers; PG. 4-22, Section 4.1.7: Phase Options (MM-1-1-3)
- **LPI Steps - Grn/Ped Delay:**

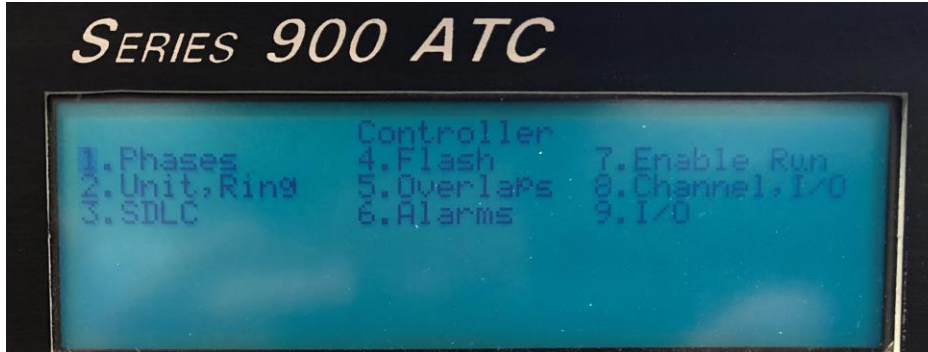
### 1. Trafficware 900 ATC Main Menu (MM):

From the Main Menu, navigate to the Controller Menu by pressing 1 (MM-1).



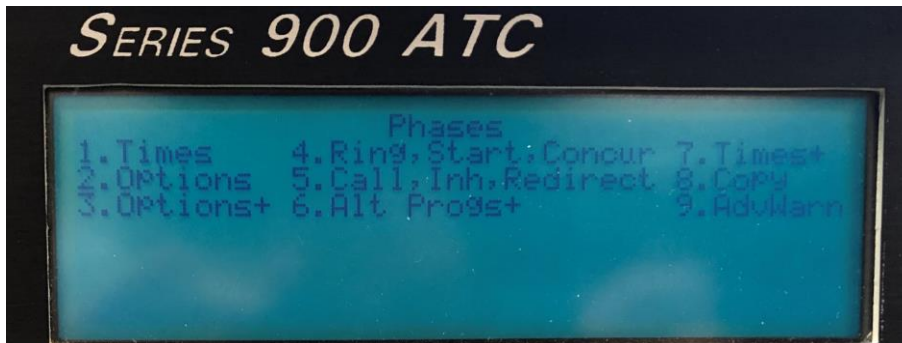
### 2. Trafficware 900 ATC Controller Menu (MM-1):

From the Controller Menu, navigate to the Phases Menu by pressing 1 (MM-1-1).



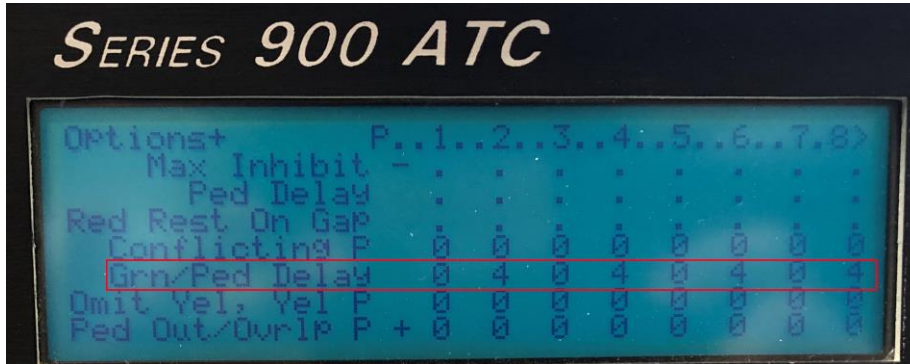
### 3. Trafficware 900 ATC Phases Menu (MM-1-1):

From the Phases Menu, navigate to the Options+ Menu by pressing 3 (MM-1-1-3).



**4. Trafficware 900 ATC Options+ Menu (MM-1-1-3):**

Scroll down to the row labeled **Grn/Ped Delay** (Green/Pedestrian Delay) and enter a desired Green Delay Time. A Green Delay Time of 4 seconds for Phase Pairs 02 & 06 and 04 & 08 was used in this example. Programming a **Grn/Ped Delay** for just one Pedestrian Phase such as 02 or one Pedestrian Phase Pair (e.g. 02 & 06) can also be achieved.



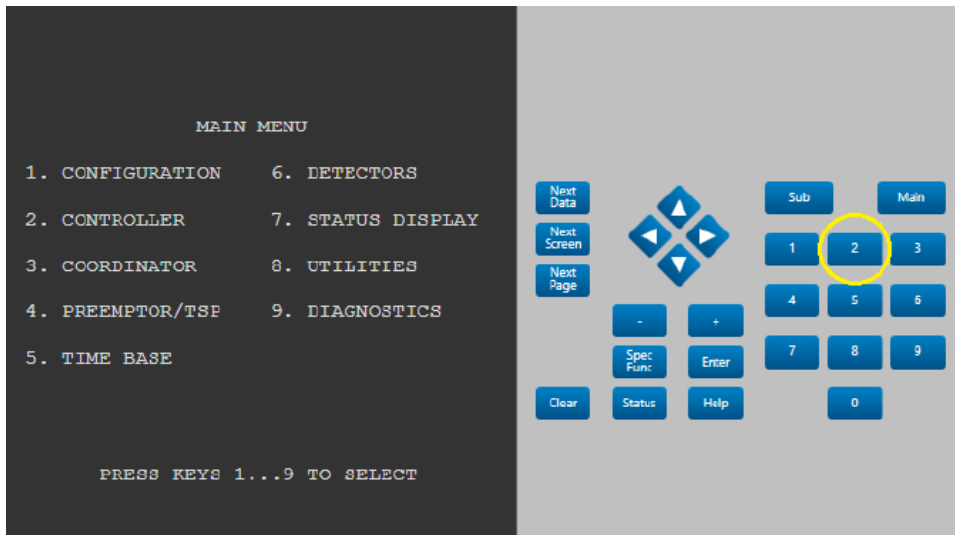
5. *Ped-Delay* works together with *Grn/Ped Delay* described below to either **delay the start of the Green** or the Walk Interval when a Pedestrian Call is serviced.
6. If ***Ped-Delay* is disabled**, the start of the *Green Interval is delayed* by the *Grn/Ped Delay* time.
7. This "Head Start Ped" feature allows the pedestrian to enter the crosswalk while the vehicle indication is Red.
8. Navigate to the Controller Unit Status Screen and place a call on Pedestrian Phases 02 & 06 and 04 & 08.
9. Verify that a Pedestrian Call is serviced, the start of the Green Interval is delayed 4 seconds after the Pedestrian Walk Interval begins on Phases 02 & 06 and 04 & 08.

## 2. Econolite

- **Controller Units Covered:** Cobalt ATC, ASC/3 -2100, 2070 and EOS
- **Controller Manual:** ASC/3 Programming Manual: ASC/3, ASC/3-2070, ASC/3-LX; PG. 7-2 through 7-4 , Section 7 Controller : Timing Plans (MM-2-1)
- **LPI Steps:**

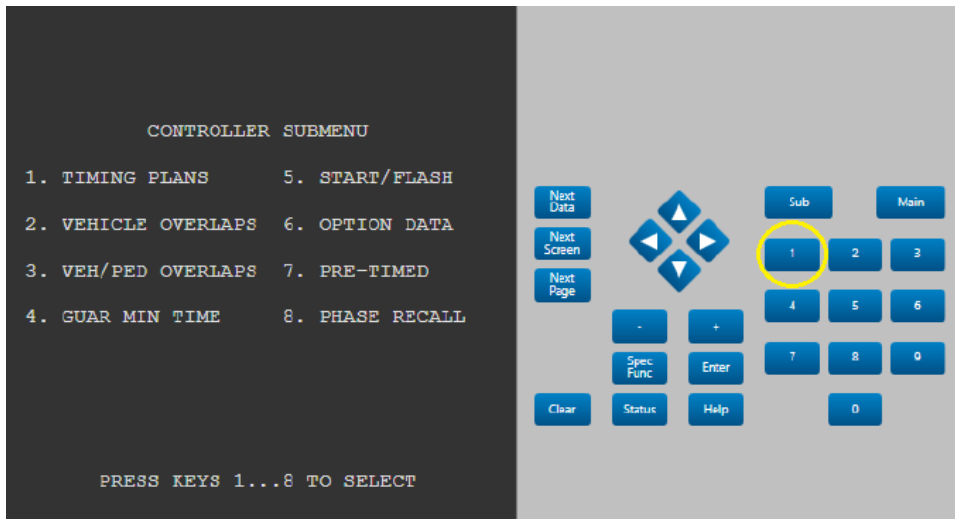
### 1. Econolite Cobalt Main Menu (MM):

From the Main Menu, navigate to the Controller Submenu by pressing 2 (MM-2).



### 2. Econolite Cobalt Controller Submenu (MM-2):

From the Controller Submenu, navigate to the Timing Plans Menu by pressing 1 (MM-2-1).



### 3. Econolite Cobalt Timing Plan (MM-2-1):

In the Timing Plans Menu, scroll down to the row labeled **DLY GRN** (Delay Green) and enter the desired Delay Green Time. A Delay Green Time of 4 seconds for Phases 04 & 08 was used in this example. The user can choose to program the **DLY GRN** to activate with Pedestrian Phase Pairs 02 & 06 in addition to Phase Pairs 04 & 08 or just one Pedestrian Phase such as Pedestrian Phase 02 by itself.

TIMING PLAN [ 1 ] PHASE DATA	>	▽						
PHASE	1	2	3	4	5	6	7	8
MIN GRN	7	20	0	10	0	20	0	0
BK MGRN	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	4	0	0	0	4
WALK	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0
PED CLR	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0
VEH EXT	4.0	6.0	0.0	4.0	0.0	6.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	15	50	0	20	0	50	0	0

### 4. Econolite Cobalt Timing Plan – WALK and PED CLR (MM-2-1):

Ensure that any Phase used for LPI already has a Walk and Don't Walk Interval programmed.

TIMING PLAN [ 1 ] PHASE DATA	>	▽						
PHASE	1	2	3	4	5	6	7	8
MIN GRN	7	20	0	10	7	20	0	10
BK MGRN	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	4	0	0	0	4
WALK	0	0	0	11	0	0	0	11
WALK2	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0
PED CLR	0	0	0	26	0	0	0	26
PD CLR2	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0
VEH EXT	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	50	0	30	20	50	0	30

5. Navigate to the Controller Unit Status Screen and place Vehicle and Pedestrian calls on Phases 04 & 08. Verify that when a Pedestrian Call is serviced, the start of the Green Interval is delayed 4 seconds after the Pedestrian Walk Interval begins on Phases 04 & 08.
6. This will be denoted by, "**MGRNd**".

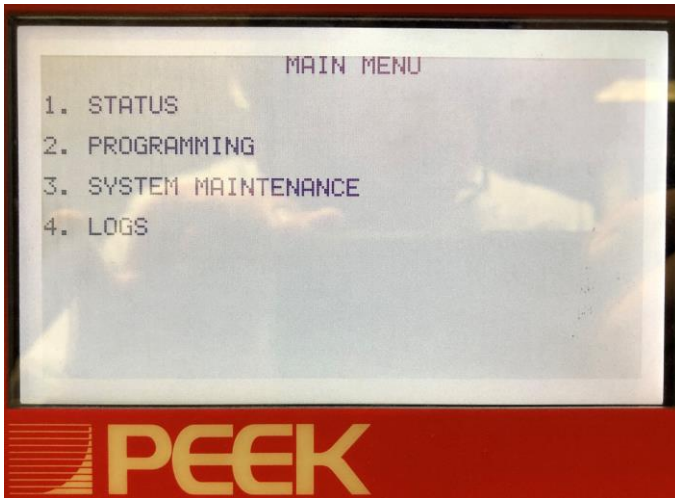


### 3. Peek:

- **Controller Units Covered:** Peek ATC-1000 (*Operating System Version 03.031 and a previous Operating System for the Ped Timings Menu are referenced in Step 8*)
- **Controller Manual:** Basic Programming Guide, GreenWave Controller Software for Traffic Controllers; PG. 66 through 67, Chapter 4 – Vehicle Overlaps and Pedestrian Signals: Set Pedestrian Signal Timing 2.2.3
- **LPI Steps:**

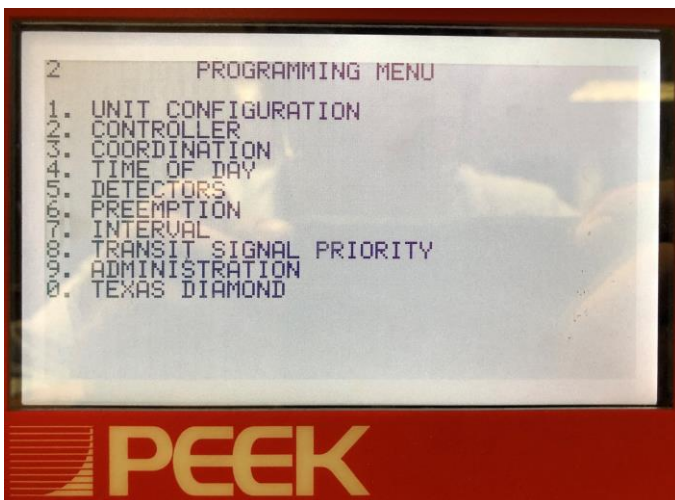
#### **1. Peek ATC-1000 Main Menu (MM):**

From the Main Menu, navigate to the Programming Menu by pressing 2 (MM-2).



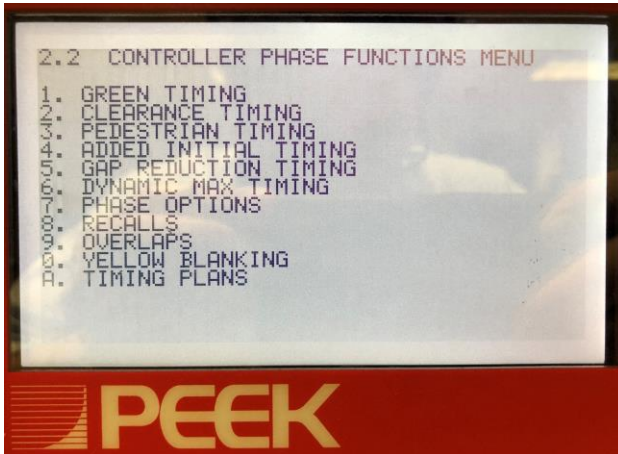
#### **2. Peek ATC-1000 Programming Menu (MM-2):**

From the Programming Menu, navigate to the Controller Menu by pressing 2 (MM-2-2).



**3. Peek ATC-1000 Controller Phase Functions Menu (MM-2-2):**

From Controller Phase Functions Menu, navigate to the Ped Timings Menu pressing 3 (MM-2-2-3).



**4. Peek ATC-1000 Ped Timings Menu (MM-2-2-3):** (NOTE: Two Operating System Versions (OSV) are shown)

When in the Ped Timings Menu, place the CU into **Edit Mode** by pressing (\* + E).

5. Select a programmed Pedestrian Phase, in this case Phases 02 & 06 and 04 & 08 and move the flashing cursor to **WALK MODE** line under the Phase and press the NXT Button once to display 'dGrn' denoting the delayed Green/Leading Ped. (The previous OSV uses 'walk' under **WALK MODE**)
6. Notice the **WALK MODE WALK/GREEN DELAY TIME** changed to 0.0. (**WALK MODE DELAY** for previous OSV)
7. Move the flashing cursor to that value and program a desired **GREEN DELAY TIME**. A Green Delay Time of 4 seconds was used for Phases 02 & 06 and 04 & 08 in this example. The user can choose to program the **GREEN DELAY TIME** to activate with a single Pedestrian Phase Pair such as 02 & 06, or just one Pedestrian Phase such as Pedestrian Phase 02 by itself. (**WALK MODE DELAY** for previous OSV)

Operating System Version 03.031	Previous Operation System Version (OSV)

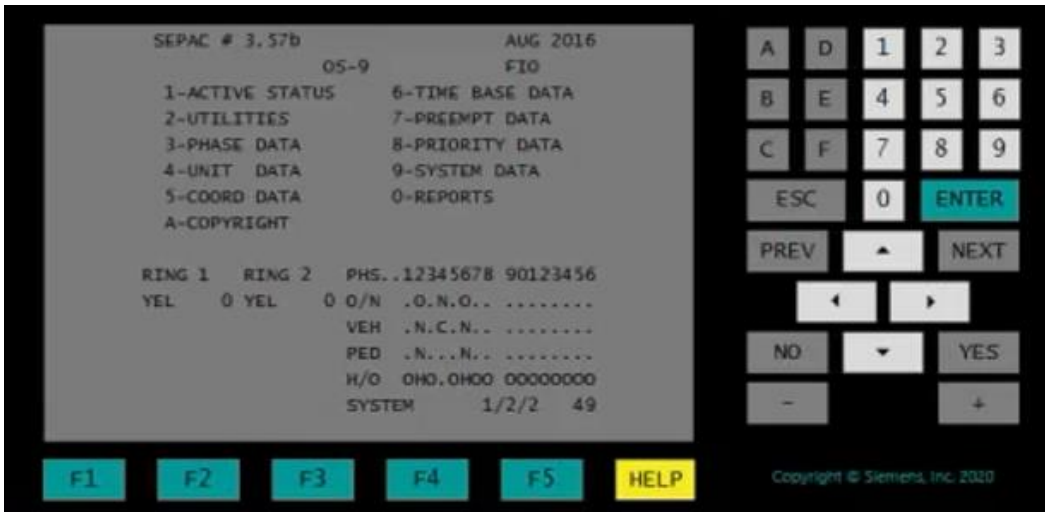
8. Save the programming by exiting the Edit Mode (\* + E).
9. Navigate to the Controller Unit Status Screen and place Vehicle and Pedestrian calls on Phases 02 & 06 and 04 & 08. Verify that when a Pedestrian Call is serviced, the start of the Green Interval is delayed 4 seconds after the Pedestrian Walk Interval begins on Phases 02 & 06 and 04 & 08.

**4. Siemens/Eagle:**

- **Controller Units Covered:** M60 ATC, 2070 LX, EPAC 300, M40, M50 and 2070 (must have firmware version 3.3.4 or higher)
- **Controller Manual:** Siemens SEPAC Eagle EPAC300; PG. 38, Chapter 2.4 PHASE DATA: Section 2.4.11 Misc Ped + Veh Options
- **LPI Steps – WOFF/10 (Walk Offset):**

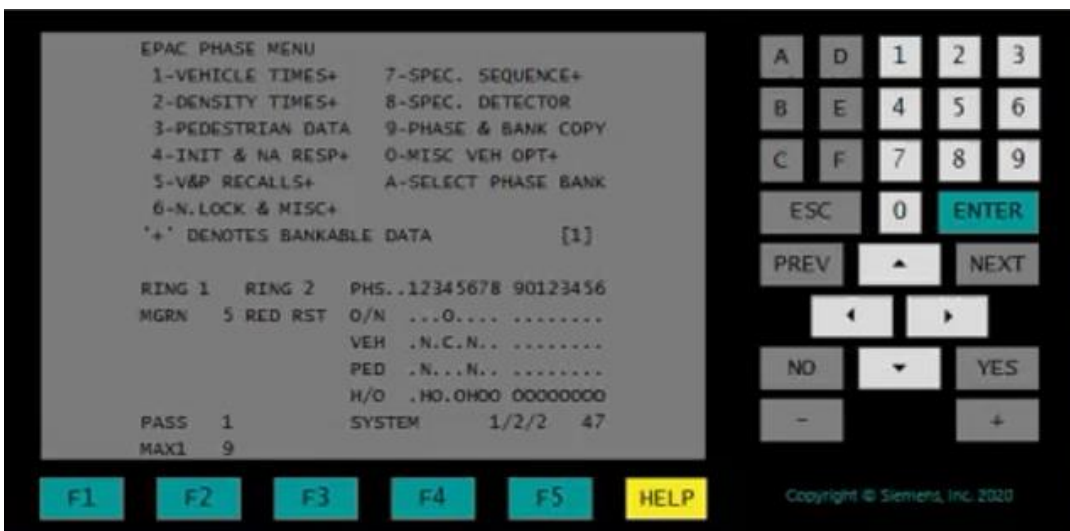
**1. Siemens M60 EPAC Controller Unit Main Status Menu (MM):**

From the Main Menu, navigate to the Phase Data Menu by pressing 3 (MM-3).



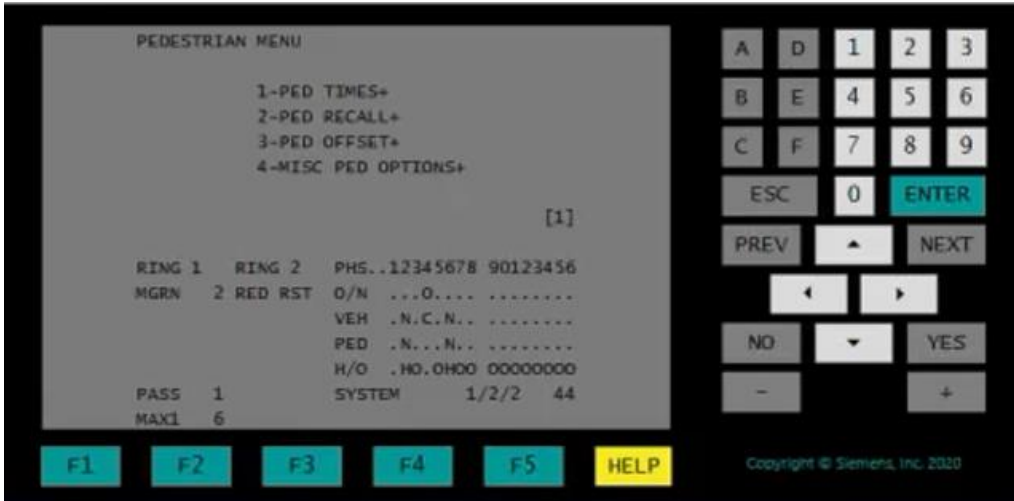
**2. Siemens M60 EPAC Phase Data Menu (MM-3):**

From the Phase Menu, navigate to the Pedestrian Data Menu by pressing 3 (MM-3-3).



3. **Siemens M60 EPAC Pedestrian Data Menu (MM-3-3):**

From the Phase Menu, navigate to the Ped Offset Menu by pressing 3 (MM-3-3-3).

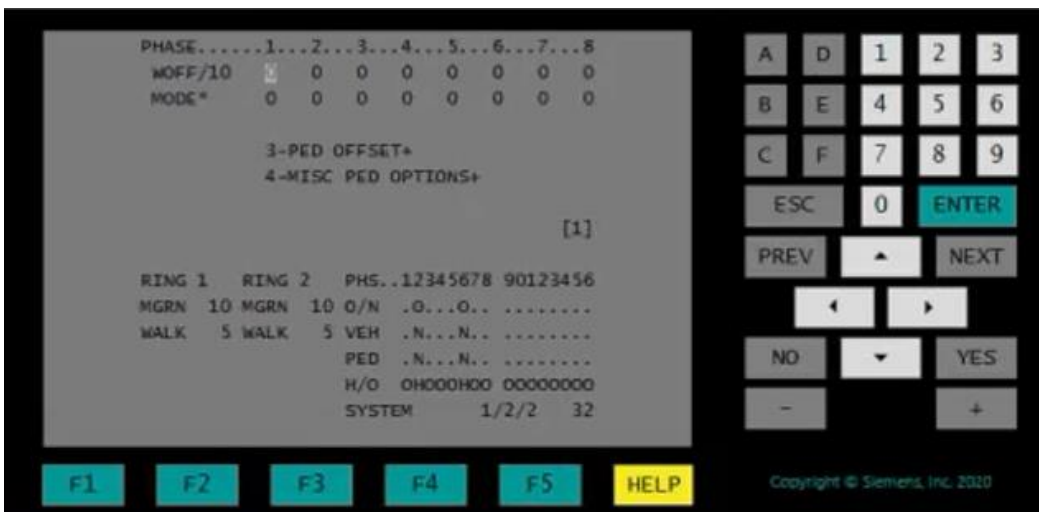


4. **Siemens M60 EPAC Ped Offset Menu (MM-3-3-3):**

Program the desired Delay under **WOFF/10** (Walk Offset) for Phase Pairs 02 & 06 and 04 & 08, a single Phase Pair such as 02 & 06 or a single Phase such as 02.

5. This parameter defines the offset between the start of the Phase Walk and the start of the Phase Green outputs in tenth seconds so a 4 sec Walk Offset would be entered as 40. Zero offset provides normal operation.

6. In the row labeled **MODE** (Walk Offset Mode), verify that **Code "0"** (**Advance/Leading Walk**) is selected to enable the Phase the Advance/Leading walk to run prior to the Green Interval.



7. Navigate to the Controller Unit Status Screen and place Vehicle and Pedestrian calls on Phases 02 & 06 and 04 & 08. Verify that when a Pedestrian Call is serviced, the start of the Green Interval is delayed 4 seconds after the Pedestrian Walk Interval begins on Phases 02 & 06 and 04 & 08.

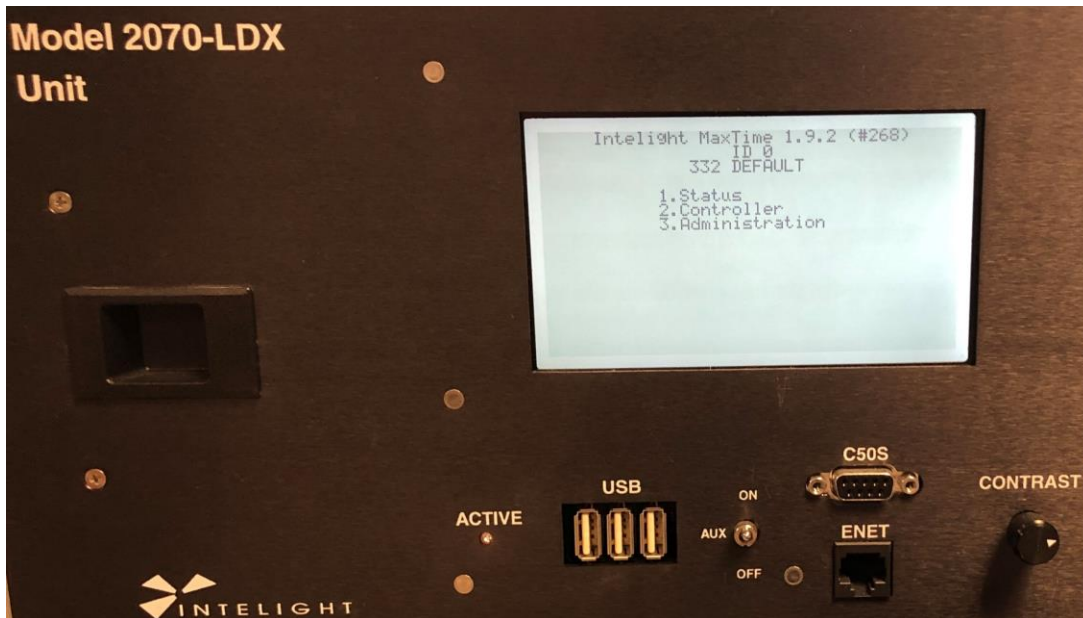


## 5. Intelight:

- **Controller Units Covered:** 2070-LDX
- **Controller Manual:** Intelight Max Time Technical Reference Manual ; PG. 112-115, Chapter 6.2 Phase Menu: Section 6.2.1 Phase Times
- **LPI Steps – Advanced Walk/Delayed Green:**

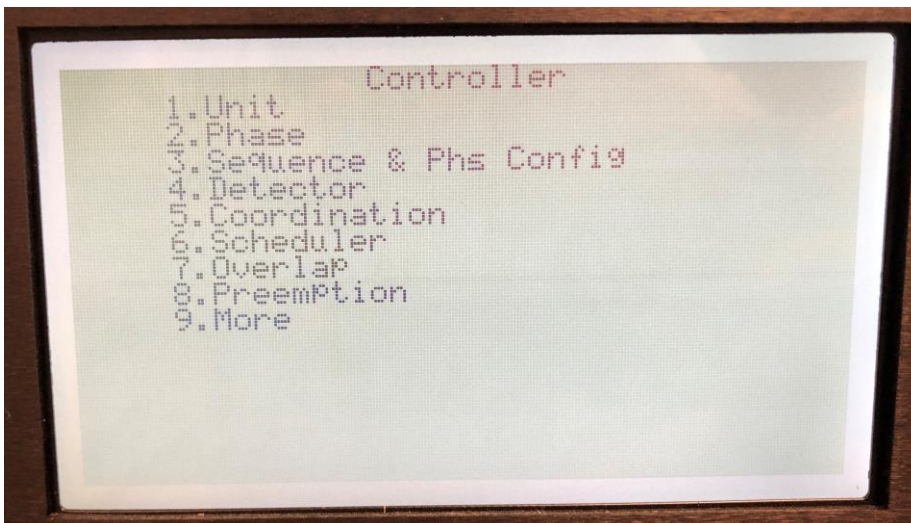
### 1. Intelight 2070-LDX Controller Unit Main Menu (MM):

From the Main Menu, navigate to the Controller Menu by pressing 2 (MM-2).



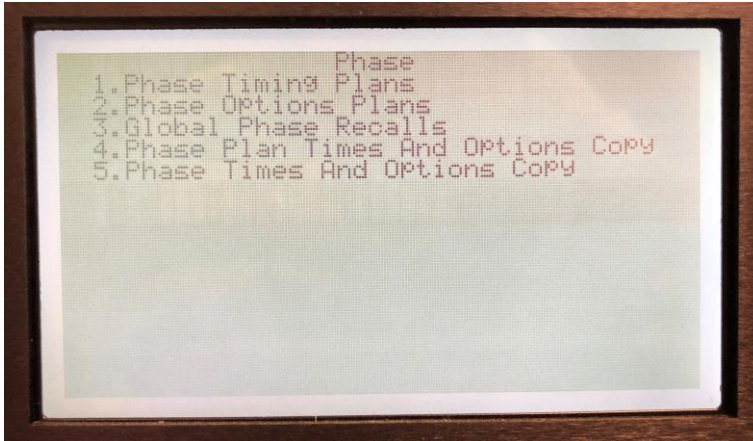
### 2. Intelight 2070-LDX Controller Menu (MM-2):

From the Controller Menu, navigate to the Phases Menu by pressing 2 (MM-2-2).



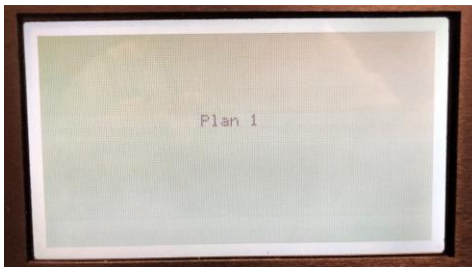
**3. Intelight 2070-LDX Phase Menu (MM-2-2):**

From the Phases Menu, navigate to the Timing Plan Menu by pressing 2 (MM-2-2-1).



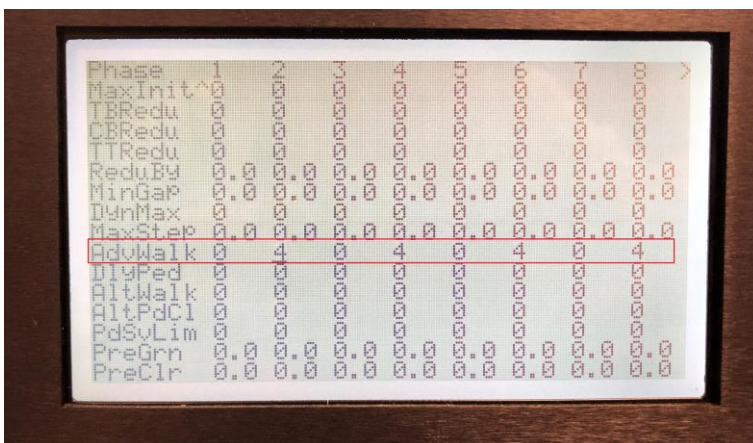
**4. Intelight 2070-LDX Timing Plan Selection Menu (MM-2-2-1):**

From the Phases Menu, the user will be prompted to enter in a Timing Plan number on the screen below. Enter in the desired Timing Plan that will be used for LPI, and the Phase Timing Menu will follow.



**5. Intelight 2070-LDX Timing Menu (MM-2-2-1):**

Scroll down to find the row labeled **AdvWalk** (Advanced Walk) and program a desired **AdvWalk Time**. An **AdvWalk Time** of 4 seconds for Phase Pairs 02 & 06 and 04 & 08 was used for this example. A single Phase Pair such as 02 & 06 or a single Phase such as 02 can also be programmed.



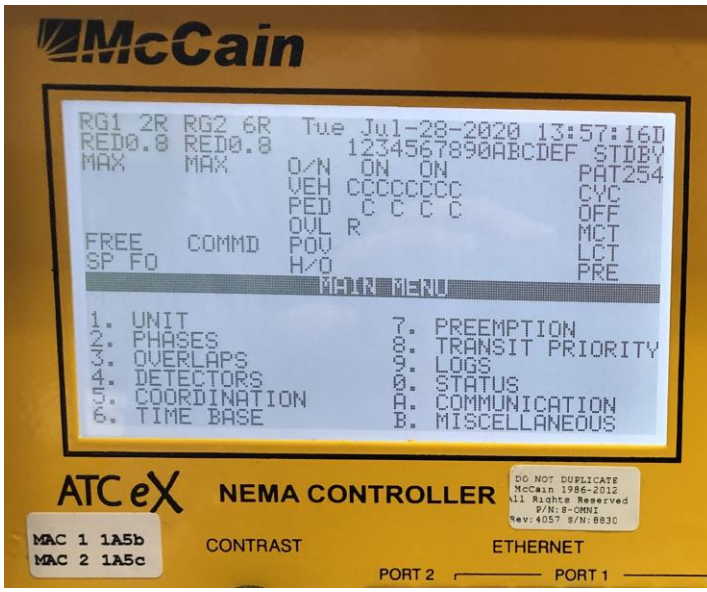
6. Navigate to the Controller Unit Status Screen and place Vehicle and Pedestrian calls on Phases 02 & 06 and 04 & 08. Verify that when a Pedestrian Call is serviced, the start of the Green Interval is delayed 4 seconds after the Pedestrian Walk Interval begins on Phases 02 & 06 and 04 & 08.

**6. McCain**

- **Controller Units Covered:** ATC eX Omni, 2070
- **Controller Manual:** Omni eX Intersection Control Software for ATC Traffic Controllers: PDF PG: 584-588; DOC PG. 52-56; CHAPTER 4 MEUS; SECTION: 4.2.2.1 PHASE TIMING
- **LPI Steps – Advanced Walk:**

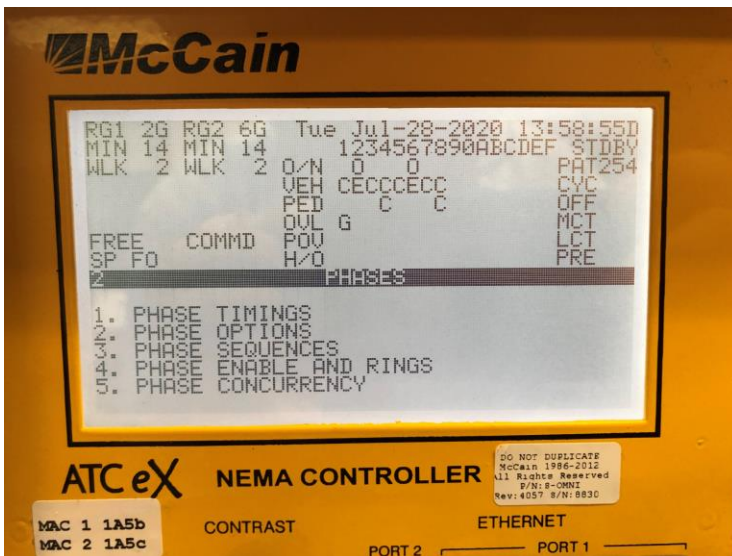
**1. McCain ATC eX Omni Controller Unit Main Status Menu (MM):**

From the Main Menu, navigate to the Phases Menu by pressing 2 (MM-2).



**2. McCain ATC eX Omni Phases Menu (MM-2):**

From the Phases Menu, navigate to the Phase Timings Menu by pressing 1 (MM-2-1).





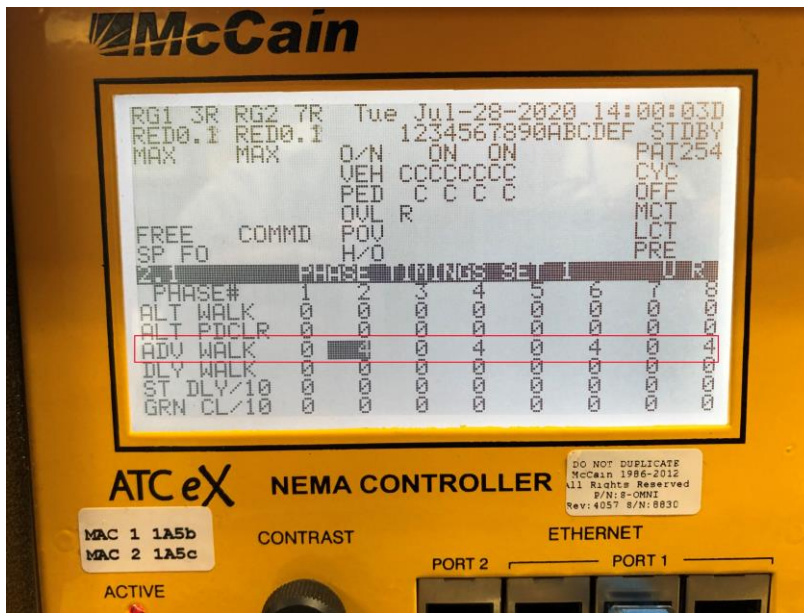
**3. McCain ATC eX Omni Phase Timings Menu (MM-2-1):**

From the Phases Menu, the user will be prompted to enter in a Timing Plan number on the screen below. Enter in the desired Timing Plan that will be used for LPI, and the Phase Timing Menu will follow.



**4. McCain ATC eX Omni Phase Timings Menu (MM-2-1):**

Scroll down to find the row labeled **Adv Walk** (Advanced Walk) and program a desired **Adv Walk Time**. An **Adv Walk Time** of 4 seconds for Phase Pairs 02 & 06 and 04 & 08 was used for this example. A single Phase Pair such as 02 & 06 or a single Phase such as 02 can also be programmed.



5. Navigate to the Controller Unit Status Screen and place Vehicle and Pedestrian calls on Phases 02 & 06 and 04 & 08. Verify that when a Pedestrian Call is serviced, the start of the Green Interval is delayed 4 seconds after the Pedestrian Walk Interval begins on Phases 02 & 06 and 04 & 08.